

AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings include changes to Figures 7-11. These sheets, which include Figures 7-11, replace the corresponding previously presented sheets.

Attachment: Replacement Sheets
Annotated Sheets Showing Changes

REMARKS/ARGUMENTS

Reconsideration and withdrawal of the rejections of the application are respectfully requested in view of the amendments and remarks herewith, which place the application into condition for allowance. The present amendment is being made to facilitate prosecution of the application.

I. STATUS OF THE CLAIMS AND FORMAL MATTERS

Claims 1 and 4, which are pending are independent. Claims 1 and 4 have been amended and thereby render the claim objections moot. No new matter has been introduced by this amendment. Support for this amendment is provided throughout the Specification. Changes to claims are not made for the purpose of patentability within the meaning of 35 U.S.C. §101, §102, §103, or §112. Rather, these changes are made simply for clarification and to round out the scope of protection to which Applicant is entitled.

Claims 1 and 4 have been amended, thereby obviating the 35 U.S.C. §112 rejections. Claim 1 and 4 were rejected under 35 U.S.C. §112, second paragraph. Applicant submits that the subject matter of “a dispersed manner” relates to code being recorded over a plurality of tracks, as per amended recitations. Reconsideration and withdrawal of the 35 U.S.C. §112 rejections are respectfully requested.

In the Drawings, Figures 7-11 have been amended, thereby, obviating the objections. Reconsideration and withdrawal of the Drawing objections are respectfully requested.

The Specification has been amended, thereby, obviating the objections to the disclosure.

II. REJECTIONS UNDER 35 U.S.C. §103(a)

Claims 1-4 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,369,641 to Dodt et al. (hereinafter, merely “Dodt”) in view of U.S. Patent No. 6,560,402 to Misawa et al. (hereinafter, merely “Misawa”).

Claim 1 recites, *inter alia*:

“A recording apparatus of a helical scan type capable of recording data as inclined tracks onto a tape-shaped recording medium, comprising:

a rotary drum having N recording heads on a circumference thereof;

a first series code generating means for generating a first series code by adding a first parity to a first data array in a predetermined direction;

a second series code generating means for generating a second series code by adding a second parity to a second data array in a direction orthogonal to said direction of said first data array; and

a recording control means for controlling recording such that said first series code is recorded by one of said N recording heads and said second series code is recorded by said N recording heads in a dispersed manner, on said tape-shaped recording medium,

wherein said second series code generating means generates said second series code such that a ratio between said second parity and said second series code equals at least $1/N$,

wherein said number N of said recording heads are 4 or more, and

wherein said first series code is recorded across a plurality of tracks, which are formed by one of said N recording heads.”
(emphasis added)

As understood by Applicant, Dodt relates to a magnetic data storage media for detecting and correcting errors in the data that is written on a magnetic tape media.

As understood by Applicant, Misawa relates to a video recording medium having a video recording region for recording images continuously and a picture contents recording region for recording pictures representing the images as picture contents, a video retrieving method for retrieving the picture contents, and a video recording apparatus for recording ordinary images and picture contents in such recording medium.

Applicant submits that Dodt and Misawa only describe recording tracks by one recording head or pair of recording heads. On the contrary, the present invention utilizes 4 or more recording heads and there alternatively exists extra narrow recording tracks by the reason of head height adjustment or run out of the rotary head drum when the recording density is increased and the recording tracks caused to be extremely narrow (1 to 3 μm , see Figure 6). Therefore, the data configuration dividing into N tracks described in Figure 5 is effective when the data is recovered from the extremely narrow or totally destroyed track.

Furthermore, Applicant submits that Dodt and Misawa, taken alone or in combination, fail to teach or suggest the claimed subject matter of claim 1. Specifically, Applicant respectfully submits that there is no teaching or suggestion of a recording apparatus of a helical scan type capable of recording data as inclined tracks onto a tape-shaped recording medium wherein said number N of said recording heads are 4 or more, and wherein said first series code is recorded across a plurality of tracks, which are formed by one of said N recording heads, as recited in claim 1

Therefore, Applicant submits that independent claim 1 is patentable.

For reasons similar to those described above with regard to independent claim 1, independent claim 4 is also believed to be patentable.

Therefore, Applicant submits that independent claims 1 and 4 are patentable.

CONCLUSION

In the event the Examiner disagrees with any of statements appearing above with respect to the disclosure in the cited reference, or references, it is respectfully requested that the Examiner specifically indicate those portions of the reference, or references, providing the basis for a contrary view.

Please charge any additional fees that may be needed, and credit any overpayment, to our Deposit Account No. 50-0320.

In view of the foregoing amendments and remarks, it is believed that all of the claims in this application are patentable and Applicant respectfully requests early passage to issue of the present application.

Respectfully submitted,

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FIG. 6

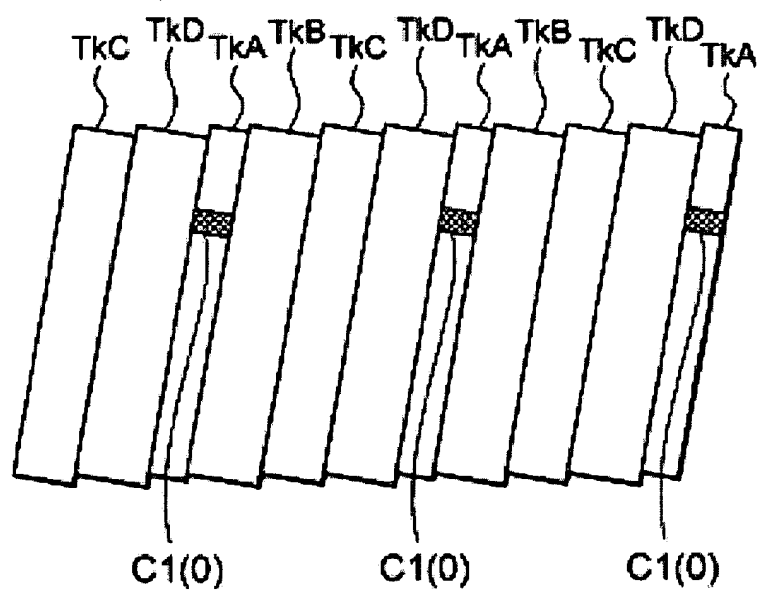
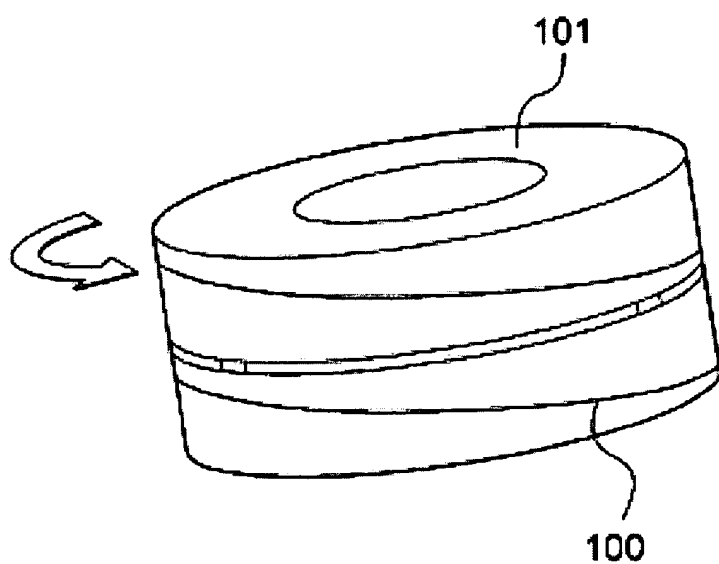


FIG. 7

Related Art



Related Art

FIG. 8

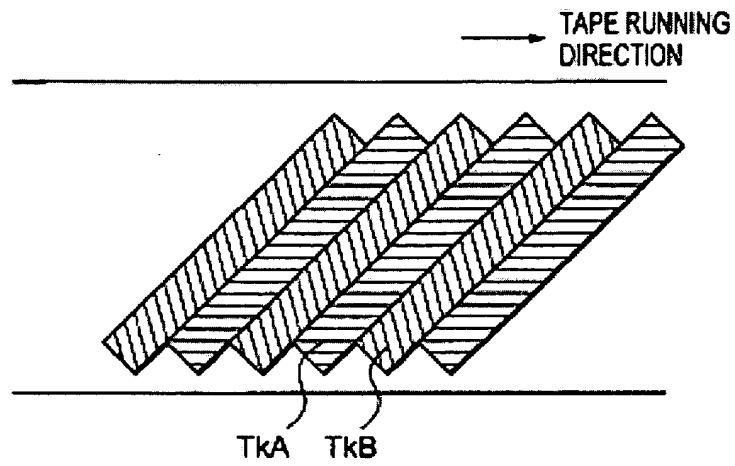
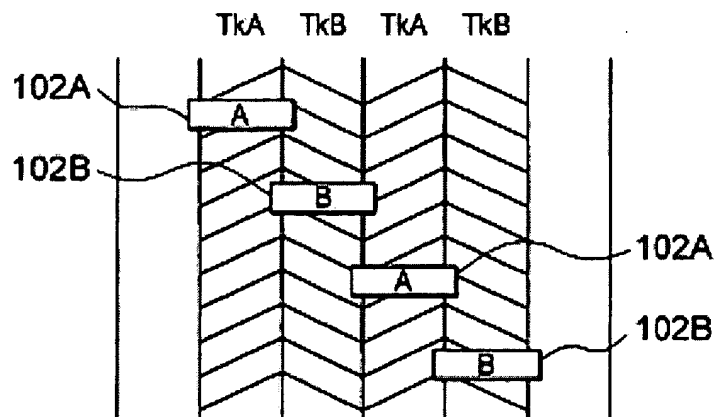


FIG. 9

Related Art



Related Art

FIG. 10

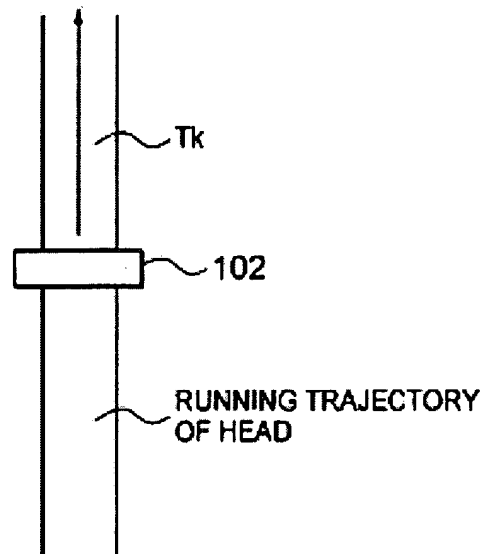


FIG. 11

Related Art

